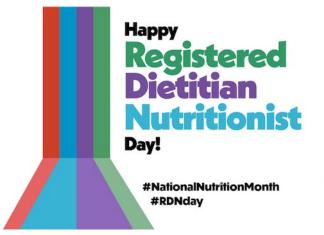
# Native-Centered Nutrition Education

See, Touch, and Taste Your Way to Learning Nutrition

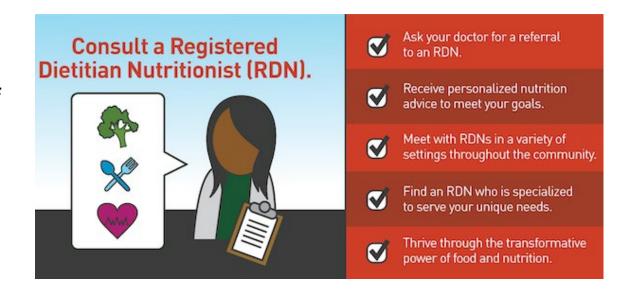
Kibbe Conti, MS, RDN





# Consult a Registered Dietitian Nutritionist (RDN)

- For personalized nutrition advice, consult a registered dietitian nutritionist (RDN).
- You can ask your doctor for a referral to an RDN or meet with RDNs in a variety of settings throughout your community.
- Find an RDN who is specialized to serve your unique needs. RDNs provide sound, easy-to-follow personalized nutrition advice to meet your lifestyle, preferences, and health-related needs.
- To find an expert in your area, visit the Academy of Nutrition and Dietetics website at https://www.eatright.org/.



## Heritage Foodways as a Food Guideline

#### **Evolving Foodways**

 We all come from a people who utilized the plants and animals to support human health of a nation.

## **Traditional Foods**





#### **Cultural Connections**

- "As indigenous people, we draw our resilience and strengths from our ancestral knowledge, cultural traditions, languages and our connections to land, water and all living things."
  - NB3 Foundation: <a href="http://www.nb3foundation.org/our-approach/cultural-connections/">http://www.nb3foundation.org/our-approach/cultural-connections/</a>
- Our indigenous cultures are the foundation to how we live our lives
- Complimentary materials at the GPGHW website: <a href="https://health.gptchb.org/gpghw/ssb/">https://health.gptchb.org/gpghw/ssb/</a>

## Original American Foods

- It is said that 70% of the worlds cultivated crops today are from foods that originated in the Americas and were developed by the Indians.
- These crops were a great contribution to the nations across the Old World. This is just a partial listing of important food crops that originated in the Americas.

• Corn

- Coffee
- Bean Varieties
   Tomato

Potato

- Cocoa
- Sunflowers
- Strawberry

Avocado

Pumpkin

Squash

- Pineapple
- Chili Peppers
- Peanuts

## Buffalo Bird Woman, Hidatsa

"We cared for our corn in those days as we would care for a child; for we Indian people loved our gardens, just as a mother loves her children; and we thought that our growing corn liked to hear us sing, just as children like to hear their mothers sing to them."









#### Corn

- Increased the supply of meat and lard, also eggs, milk, butter, cheese, and all animal products
- Population Impact in Europe from 1650 to 1950
  - 100 million to 600 million
- Food system plagued by famines
  - Europe's richest country France suffered from a total of 111 famines from 1371 to 1791.
  - Frequent famines ended with the introduction/production of corn, potato, peanut, sunflower, beans etc.

## Slow Foods

Absorption keeps pace with insulin production



## Introduction of European Food and Government Rations

- Beef, pork, poultry, dairy, fruit, flour fry bread, refined wheat bread, salt pork, coffee
- Despite major changes, the people still hunted small and gathered plants and were still relatively a healthy nation.



## Modern Refined Foods and Diabetes





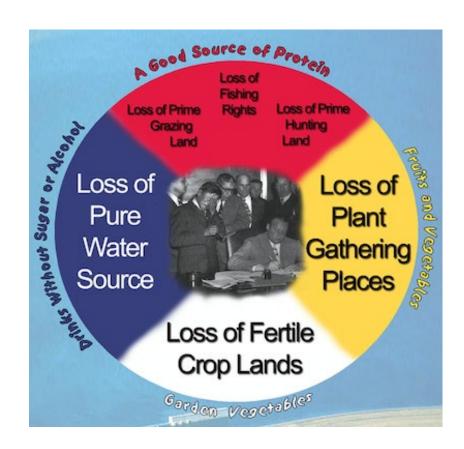


"It is widely recognized that the replacement of indigenous foods with a diet composed primarily of modern refined foods is the center piece of the diabetes problem."

 Kuhnlin, HV. "Culture and Ecology in Dietetics and Nutrition." Journal of the American Dietetic Assoc. 1989, 89 (8) 1059–1060.

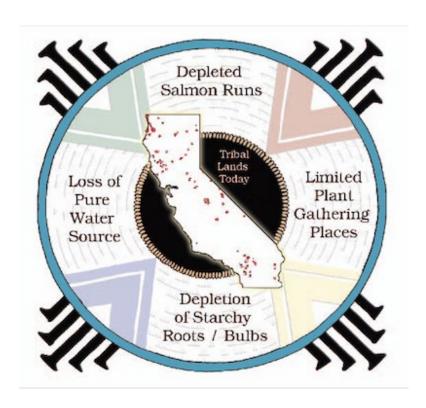
#### Loss of the Bottomlands

- Mandan/Hidatsa/Arikara Nation
  - Loss of 98% of agricultural lands
- When tribes negotiated treaties, they were thinking of traditional foods, not commodities
- Hunting and gather places were made off limits
- Agricultural became difficult or impossible
- Traveling was prohibited and trade all but stopped
- The culture and economy changed



### Loss of the Traditional Land Base

- Fishing, hunting, and gathering places were made off limits
- Agricultural became difficult or impossible
- Traveling was prohibited and trade all but stopped
- Depleted salmon runs
- Loss of pure water source
- Depletion of starchy roots and bulbs
- The culture and economy changed...

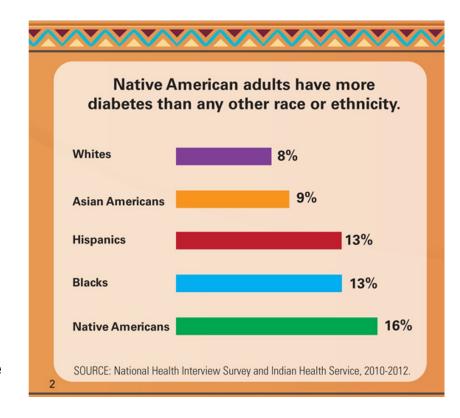


# Timeline of the Emerging Epidemic

- 1950s:
  - "End of the wagon era"
    - Personal communication with Lakota, Johnson Holy Rock
- 1960s:
  - "Ring Bologna and a Loaf of White"
    - First experience Soda beverage
- 1970s:
  - Epidemic of Diabetes emerges in Northern Plains.
- 1980s:
  - Declared an Epidemic by Fed/CDC

# Native Adults Have More Diabetes Than Other Race or Ethnicity

- Diabetes emerged in the 1960s and 70s. In the Northern Plains, it was finally declared an epidemic in the early 80s. Rates vary widely.
- Woolf et al. (2015) found that nearly 23% of adults with incomes below \$35,000 reported being in poor and fair health, compared with 13% of adults with incomes between \$35,000 and \$49,999, and only 6% of adults with incomes of \$100,000 or more.
- Woolf et al. (2015) also found that prevalence rates for a range of health problems, including diabetes, coronary heart disease, stroke, and kidney disease, are highest for low-income adults and decrease with income level.
- Kidney failure from diabetes among Native Americans was the highest of any race. However, this has declined the fastest since the Indian Health Service (IHS) began using population health and team-based approaches to diabetes and kidney care, a potential model for other populations. Health care systems can use population health approaches to diabetes care.



# Unci's Soup vs. Ramen

• Bone broth, meat, starchy vegetable vs. enriched wheat, salt, fat





## **Traditional Learning**

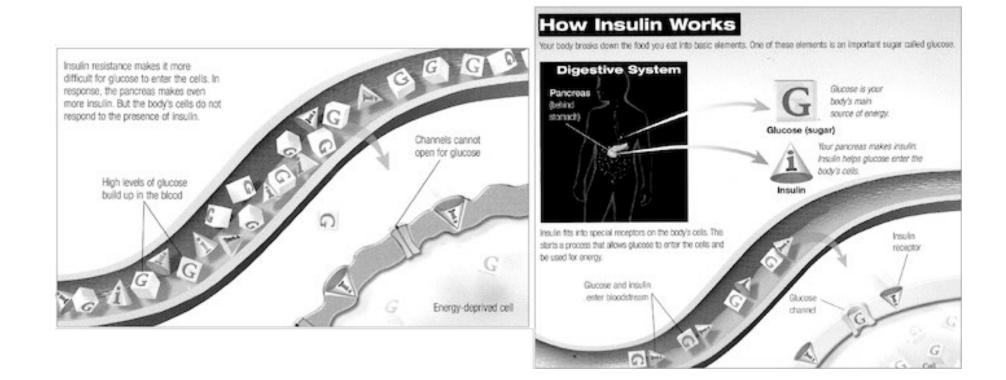
- Intergenerational learning
- Learning actively, naturally
- Story telling, observing, under guidance of elder/mentor
- See, touch, taste





## How Insulin Works

- When you eat or drink things that have carbohydrates, your body breaks those carbs down into glucose (a type of sugar), which then raises the level of glucose in your blood. Your body uses that glucose, or sugar, for fuel to keep you going throughout the day.
- Knowing what kind and how many carbs to eat is important for managing diabetes. Eating too many carbs can raise your blood glucose too high.



## Case Study

#### Julia

- 51-year-old Zuni female. BMI: 41, Weight: 217
- c/o 25 lbs. weight gain in 2 years, Non-diabetic, Family Hx: DM2
- Feeling too tired to do yardwork more than 5 minutes and sleeping often
- Using a walker due to weakness.
- Pertinent Labs: Alb 3.0, K+ 3.3 L, Chol 189, Trig. 313, A1C 5.5
- Diet recall:
  - 11 a.m.: Fried Potatoes w chilis, Fry Bread, Pepsi
  - 4 p.m.: Hamburger on a bun, can of soda, fries
  - 6 p.m.: Snack: cookies or pudding
  - 9 or 10 p.m.: Snack Potato chips, Cheez-its, or ramen; water

Patient denies any knowledge of carbs. No nutrition education with a dietitian.

# Adult Energy Needs

https://www.eatright.org/

Women Age	Sedentary	Moderately Active	Active		
19–30	1,800–2,000	2,000–2,200	2,400		
31–50	1,800	2,000	2,200		
51+	1,600	1,800	2,000–2,200		
Men Age	Sedentary	Moderately Active	Active		
19–30	2,400–2,600	2,600–2,800	3,000		
31–50	2,200–2,600	2,400–2,600	2,800–3,000		
51+	2,000–2,200	2,200–2,400	2,400–2,800		

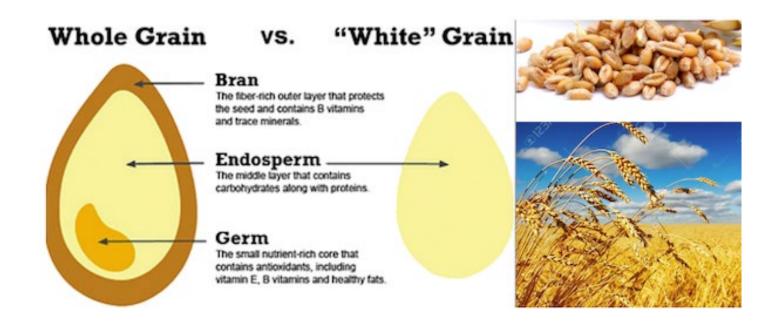
#### Eat Less of These

- Refined, highly processed carbohydrate foods and those with added sugar
- Sugary drinks like soda, sweet tea, and juice drinks
- Refined grains like white bread, white rice, and sugary cereal
- Sweets and snack foods like cake, cookies, candy, and chips
- https://www.choosemyplate.gov/



#### Grains

- There are three main types of carbohydrates in food—starches, sugar and fiber.
- As you'll see on the nutrition labels for the food you buy, the term "total carbohydrate" refers to all three of these types.
- As you begin counting carbohydrates, you'll want to stay away from food that has high carbs and instead choose a more balanced nutrient mix of carbs, protein, and fat.



#### **Eat More Whole Grains**

- Whole grains provide dietary fiber, as well as a variety of antioxidants, vitamins, and minerals.
- Serve brown rice or whole-grain noodles with stir-fry dishes.
- Choose whole-grain breads for toast or sandwiches.
- Use buckwheat flour in pancakes.
- Pair whole-grain hot or cold cereals with fruit and low-fat milk.
- Try a less common grain, such as millet or quinoa with meals.
- Another simple tip is to make at least half of the grains you eat daily whole grains.
- Examples of whole grains include whole wheat bread, brown rice, and oatmeal, as well as less-common grains, such as millet, quinoa, and bulgur.
- For more information, visit <a href="https://www.choosemyplate.gov/">https://www.choosemyplate.gov/</a>.

## Starchy Vegetables

- Corn, green peas, sweet potatoes, pumpkin, plantain, beans and lentils (like black beans, kidney beans, chickpeas, and green lentils)
- The goal is to choose carbs that are nutrient-dense, which means they are rich in fiber, vitamins, and minerals, and low in added sugars, sodium, and unhealthy fats.

## 2015-2020 Dietary Guidelines for Americans:

Table A4-1 Healthy Mediterranean-Style Eating Pattern: Recommended Amounts of Food From Each Food Group at 12 Calorie Levels

"The Healthy Mediterranean-Style Pattern is adapted from the Healthy U.S.-Style Pattern, modifying amounts recommended from some food groups to more closely reflect eating patterns that have been associated with positive health outcomes in studies of Mediterranean-Style diets."

https://health.gov/sites/default/files/2019-09/2015-2020 Dietary Guidelines.pdf

Calorie Level of Pattern[3]	1,000	1,200	1,400	1,600	1,800	2,000	2,200	2,400	2,600	2,800	3,000	3,200
Food Group <sup>®</sup>	Daily Amount <sup>(s)</sup> of Food From Each Group (vegetable and protein foods subgroup amounts are per week)											
Vegetables	1 c-eq	1½ c-eq	1½ c-eq	2 c-eq	2½ c-eq	2½ c-eq	3 c-eq	3 c-eq	3½ c-eq	3½ c-eq	4 c-eq	4 c-eq
Dark-Green Vegetables (c-eq/wk)	3/2	1	1	1½	1½	1½	2	2	2½	2½	2½	21/2
Red & Orange Vegetables (c-eq/wk)	21/2	3	3	4	5½	51/2	6	6	7	7	7½	7½
Legumes (Beans & Peas) (c-eg/wk)	<b>½</b>	1/2	1/2	1	1½	11/2	2	2	2½	21/2	3	3
Starchy Vegetables (c-eq/wk)	2	31/2	31/2	4	5	5	6	6	7	7	8	8
Other Vegetables (c-eq/wk)	11/2	2½	2½	31/2	4	4	5	5	5½	51/2	7	7
Fruits	1 c-eq	1 c-eq	1½ c-eq	2 c-eq	2 c-eq	2½ c-eq	2½ c-eq	2½ c-eq	2½ c-eq	3 c-eq	3 c-eq	3 c-ec
Grains	3 oz-eq	4 oz-eq	5 oz-eq	5 oz-eq	6 oz-eq	6 oz-eq	7 oz-eq	8 oz-eq	9 oz-eq	10 oz-eq	10 oz-eq	10 oz-e
Whole Grains <sup>ig</sup> (oz-eq/day)	11/2	2	2½	3	3	3	3½	4	41/2	5	5	5
Refined Grains (oz-eg/day)	11/2	2	21/2	2	3	3	31/2	4	4½	5	5	5

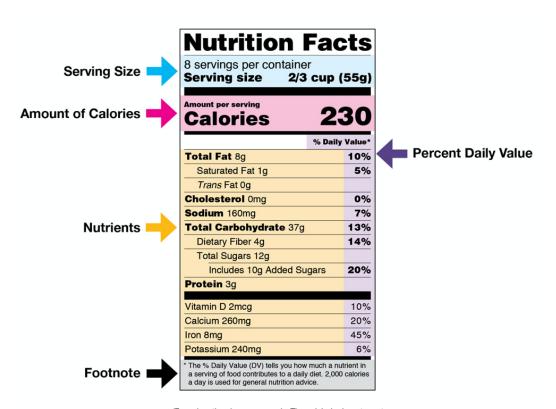
#### **Nutrition Facts Labels**

The new Nutrition Facts labels make it easier to make healthful choices.

- Updated serving sizes to reflect what people actually eat and drink.
- Bolder, larger fonts for the number of calories.
- A new line for Added Sugars, which is now required on the label. (Although single-ingredient sugars, like table sugar, maple syrup, or honey will only reflect a percent Daily Value.)
- An updated list of vitamins:
  - Vitamin D and potassium are now required on the label;
     vitamins A and C are no longer required.

The amount recommended for some of the nutrients have also changed recently, and the labels will reflect these new amounts.

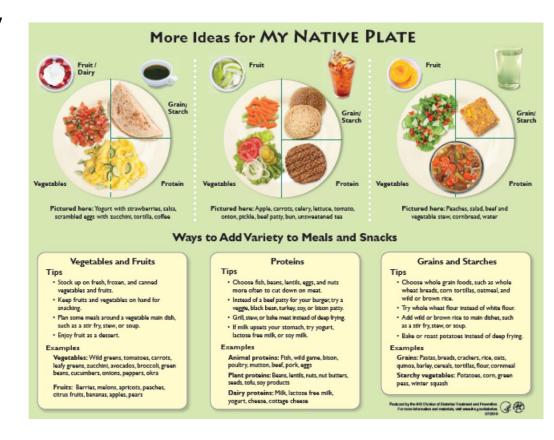
Source: U.S. Food and Drug Administration. *Health Educator's Nutrition Toolkit: Setting the Table for Healthful Eating.* Available at: <a href="https://www.fda.gov/food/nutrition-education-resources-materials/health-educators-nutrition-toolkit-setting-table-healthy-eating">https://www.fda.gov/food/nutrition-education-resources-materials/health-educators-nutrition-toolkit-setting-table-healthy-eating</a>



(For educational purposes only. These labels do not meet the labeling requirements described in 21 CFR 101.9.)

## More Ideas for My Native Plate

- Eating healthy requires a balanced mix of key nutrients (protein, fat, carbohydrates, fiber, vitamins, and minerals) to sustain a healthy body and mind. It also requires an environment that promotes access to healthy, local and affordable foods and safe drinking water.
- For Native families and communities, this includes our connection to land, the ancestral knowledge connected to our indigenous foods and our cultural languages, traditions and lifeways.



## Vary Your Protein Foods

- Include beans and peas as a plant-based source of protein.
- Choose seafood twice a week, such as salmon, tuna, or tilapia.
- Enjoy hard-boiled eggs as a snack or with a meal.
- Select leaner cuts of meat, such as round steaks and roasts or skinless poultry.

## Make Half of Your Plate Fruits and Vegetables

- A simple way to eat more produce, is to make half your plate fruits and vegetables.
- For most people, this amounts to:
  - 1 to 2 cups of fruit per day and
  - 1 ½ to 3 cups of vegetables per day.
- Everyone's nutrition needs are a little bit different. Our age, gender and activity level are all factors that can influence how much of the different food groups we need to consume throughout the day.
- People who are more physically active have higher calorie needs, so the amounts of fruits and vegetables recommended may be even higher.
- For more information, visit <a href="https://www.choosemyplate.gov/">https://www.choosemyplate.gov/</a>.

## Antioxidants: Cancer Fighting, Cellular Support

 Antioxidants found in plant-based foods fight free radicals, which are compounds in the body that attack and destroy cell membranes. The uncontrolled activity of free radicals is believed to cause many cancers.

#### What Do Antioxidants Do?

- Antioxidants are nutrients in food that protect your cells from damage from free radicals.
- Free radicals are unstable molecules that can damage your cells. Your body creates them when you digest food or breathe in pollution.
- This cell damage may increase your risk of cancer, heart disease, cataracts, diabetes, or infections. Free radicals may also affect brain function.

## Make Better Decisions About the Beverages You Drink

- MyPlate, along with the Nutrition Facts Label, can help you make better food and beverage choices.
- The Nutrition Facts Label is located on most packaged foods and beverages and provides helpful information, such as:
  - The servings per container, which is the total number of servings in the entire package or container.
  - The serving size, which is a guide rather than a recommendation of how much to eat or drink.
  - And calories per serving.
- Nutrition Facts labels have been around for many years, but the U.S. Food and Drug Administration (FDA) recently updated these labels.
- This slide shows a comparison of the original and new labels.



#### **Nutrition Facts and Nutrients**

- The Nutrition Fact label is full of helpful information on different nutrients—both the ones to get more of and ones to get less of.
- Many Americans do not get the recommended amount of foods that provide the following nutrients: dietary fiber, vitamin D, calcium, and potassium.
- For young children, women capable of becoming pregnant, and women who are pregnant, a low intake of iron is also a concern.
- To use the Nutrient Facts label to help you get more of these nutrients and compare and choose foods that have a higher percent Daily Value (%DV).
- A DV of 5% or less per serving is considered low for that nutrient; a DV of 20% or more is high.

8 servings per container Serving size 2/3 cup (55g) Amount per serving **Calories** % Daily Value Total Fat 8g 5% Saturated Fat 1g Trans Fat 0g Cholesterol 0mg 0% Sodium 160ma 7% Total Carbohydrate 37g 13% 14% Dietary Fiber 4g Total Sugars 12g Includes 10g Added Sugars 20% Protein 3g Vitamin D 2mcg 10% Calcium 260mg 20% Iron 8mg 45% Potassium 240mg The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories

**Nutrition Facts** 

(For educational purposes only, These labels do not meet the labeling requirements described in 21 CFR 101.9.)

Source: <a href="https://www.fda.gov/consumers/consumer-updates/nutrition-facts-label-reboot-tale-two-labels">https://www.fda.gov/consumers/consumer-updates/nutrition-facts-label-reboot-tale-two-labels</a>

# Nutrition Facts: Saturated Fats, Trans Fats, Sodium, and Added Sugars

- We just discussed nutrients that positively affect our health.
   Now we will discuss the nutrients to get less of, which includes saturated fats, trans fat, sodium, and added sugars.
- Healthy eating patterns limit these, which may help lower the risk of developing certain health conditions, such as heart disease.
- Compare the Nutrition Facts Label and choose foods with a lower DV.
  - (Note: Trans fat does not have a DV because there is no recommended amount. Keeping it as low as possible is a good goal.)

Source: U.S. Food and Drug Administration. *Health Educator's Nutrition Toolkit: Setting the Table for Healthful Eating.* Available at: <a href="https://www.fda.gov/food/nutrition-education-resources-materials/health-educators-nutrition-toolkit-setting-table-healthy-eating">https://www.fda.gov/food/nutrition-education-resources-materials/health-educators-nutrition-toolkit-setting-table-healthy-eating</a>



(For educational purposes only, These labels do not meet the labeling requirements described in 21 CFR 101.9.)

## Traditional Cooking Methods

- Lakota elders describe three common methods of cooking that were used:
  - Boiling, roasting, and baking.
- Frying has only become common since we had access to lard and oils for frying and pans for frying.
- Traditional foods expert Wilmer Mesteth of Pine Ridge describes 13 different way Lakota people preserved and prepared foods for use—none of these involved frying.
- Not traditional:
  - Indian Tacos
  - Bacon/Sausage
  - Popovers
  - Cake

## **Healthy Nutrition**

- We are what we eat. It is important to introduce healthy eating and drinking to our children at birth, including breastfeeding.
- Almost 50% of all added sugars in the American diet are in drinks—like soft drinks, fruit drinks, and energy drinks.
- Shift to healthier beverage choices
- There are two main types of sugar:
  - Naturally occurring sugars such as those in milk or fruit
  - Added sugars such as those added during processing such as fruit canned in heavy syrup or sugar added to cookies



## Food Distribution Program on Indian Reservations (FDPIR)

- FDPIR aims to provide low-income households with a healthy variety of foods to supplement their diets. It is designed as a more accessible alternative to SNAP
- FDPIR distributes a monthly food package. Participants can choose from a wide variety of nutritious foods, including fresh and canned fruits and vegetables, juices, cereals, grains (including whole-grain products), pasta, vegetable oil, meats, poultry, fish, and other proteins such as canned and dry beans, peanut butter, and powdered egg mix.
- There have been many improvements in the types and variety of products offered in the food package.
- Food insecurity is dramatically higher for FDPIR households than all households in the United States. In 2013, the percent of FDPIR households with low food security was more than four times the percent of U.S. households (34 percent compared to 8 percent).
- Fresh Produce Program and delivered weekly to ensure availability of fresh fruits and vegetables to participants throughout the month.
- Almost 90 percent of survey respondents indicated that they were satisfied with the food package including the variety, freshness, quality, nutritional value, taste, and visual appeal of the food. Across sites visited, there was a commonly held perspective that the quality of food in FDPIR has improved over time.
- Recommendations
- Participant suggestions for improvements centered on building a more culturally relevant, local, and fresh food package. The diversity across programs is perhaps most apparent in requests for cultural foods. Food items that are viewed as cultural vary considerably across Indian Country.

#### **Nutrition**

#### Food is Medicine! Water is Life!

#### Protein

- The most important food source for the Lakota was the buffalo. Pte Oyate is the Lakota name for Buffalo Nation. Although buffalo was the primary food source, the Lakota hunted other animals as well.
- Buffalo, elk, deer, rabbit, antelope

#### Fruits & Veggies

 Chokecherries, wild onion, dried corn, buffalo berries, wild strawberries, wild raspberries, blueberries, mushrooms

#### Grains & Starchy Veggies

Tinpsila (wild turnip), blo (wild potatoes), wild rice, beans

#### Healthy Drinks

- Water is the first medicine of the Lakota. Water sustains life. Every day the human body requires half your weight in ounces of water to stay healthy and happy. Remember to drink plenty of water!
- Water, ceyaka (mint tea), sage tea, chokecherry juice

# Eat a Variety of Nutritious Foods Every Day

- It's important to eat a variety of nutritious foods every day in order to get the nutrients that are needed.
- Simple steps that can help are:
  - Including healthful foods from all food groups.
  - Hydrating healthfully with beverages.
  - Learning how to read nutrition labels, which you will learn how to do today.
  - Practicing portion control.
  - Taking the time to enjoy your food.



# Learn the Skills to Create Tasty Meals

Preparing food at home can be healthy, rewarding, and a great way to save money, too.

- Learn skills to create tasty meals. Things to keep in mind include:
  - Keeping healthful ingredients on hand.
  - Practicing proper home food safety.
  - Sharing meals together as a family when possible.
  - Finding ways to reduce food waste.
  - Trying new flavors and foods.



### Plan Your Meals Each Week

- Plan your meals each week so that you can be sure to include a variety of nutritious foods.
  - Look in the refrigerator, freezer, and pantry for foods that need to be used up.
  - Write a list of the ingredients you still need.
- These steps can help you shop for healthful foods.
- Planning in advance will also help you:
  - Be menu-savvy when dining out.
  - Choose healthful recipes to make during the week.
  - Enjoy healthful eating at school and at work.
  - Eat healthfully while traveling.



## Honor the Role of Traditional Foods

- Honor the role of traditional foods in the holistic health of Native people.
- Engage in active teaching methods, multi-sensorial.
   Ask patients to identify CHOs and other groups.
- Encourage including heritage CHOs: Corn, beans, squash, and whole potato as regular parts of meals.



#### In Conclusion...

- Every little bit (or bite!) of nutrition is a step in the right direction.
- Use credible sources for information.
- Read your nutrition labels.

**Happy National Nutrition Month!** 



## Questions?

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